

REMARKS

The Final Rejection dated December 18, 2002, has been carefully considered. In response thereto, the present application has been amended in a manner which is deemed to place it into consideration for allowance. Accordingly, reconsideration and withdrawal of the Final Rejection and issuance of a Notice of Allowance are respectfully solicited.

The claims have been amended in a manner which is deemed to overcome the rejection under 35 U.S.C. §112, second paragraph. The Amendment is not intended as a concession that any subject matter is unpatentable over the prior art.

In response to the rejection of claims 1-4 and 8-16 (and apparently also claims 23 and 24) under 35 U.S.C. §103(a) over *Takiguchi et al* in view of *Haysom et al* and of *Elman et al*, the Applicants file concurrently herewith a Declaration under 37 C.F.R. §1.131, removing *Haysom et al* as prior art. Therefore, the Applicants respectfully request that all grounds of rejection involving *Haysom et al* be withdrawn in light of the Declaration under 37 C.F.R. §1.131.

In addition, the Examiner rejects claims 5-7 under 35 U.S.C. §103(a) over *Takiguchi et al* in view of U.S. Patent No. 5,923,968 to *Yamazaki et al* and the rejection of claim 22 under 35 U.S.C. §103(a) over *Takiguchi et al* in view of *Freundlich et al*. The Applicants respectfully traverse that ground of rejection for the following reasons. Claims 5-7 all depend from claim 4, which depends from claim 1. Since claims 1 and 4 were rejected under 35 U.S.C. §103(a) over *Takiguchi et al* in view of *Haysom et al* and *Elman et al*, the Office Action does not explain how claims 5-7 can be rejected under *Takiguchi et al* in view of *Yamazaki et al* without *Haysom et al* or *Elman et al*. The same argument applies to the rejection of claim 22.

Furthermore, *Yamazaki et al* provides no teaching or suggestion that helium-plasma-assisted MBE used to form one layer would have any beneficial effects in the diffusion of defects

to another layer. Therefore, the proposed combination of references would not have taught or suggested the present claimed invention.

Similarly, in *Freundlich et al*, the top emitter is specifically grown at low temperature so as not to affect the QW region. The emitter is used to collect the holes (positive charge carriers) from the electron-hole pairs created by the incident light. There is not recognition that the low temperature InP contains defects. There is no information present in the reference to indicate that InP grown at 300°C contains defects that could be used to induce quantum well intermixing. In fact they use the low temperature deposition to specifically avoid modifying the QW structure. Therefore, that patent teaches away from the combination of references proposed in the Final Rejection.

Finally, since claim 1 has been shown above to be patentable, claims 5-7 and 22 are also patentable for at least the same reasons.

For the reasons set forth above, the Applicants respectfully submit that the present claimed invention is patentable over the combinations of references set forth in the Office Action.

As all grounds of objection and rejection have been addressed and overcome, issuance of a Notice of Allowance of the claims as now presented is respectfully solicited.

In the event there are any questions relating to this Response or to the application in general, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that prosecution of this application may be expedited.

Please charge any shortage of fees or credit any overpayment thereof to BLANK ROME COMISKY & McCAULEY LLP, Deposit Account No. 23-2185 (115354-00116). In the event that a separate Petition for an Extension of Time is required to render this submission timely and

either does not accompany this Response or is insufficient to render this Response timely, the Applicant herewith petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized above.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'D. Edmondson', with a large, stylized initial 'D'.

By:
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